

REMARKS

Claims 24-26 are the sole claims remaining in this application. Claims 1-23 and 27-31 have been withdrawn, without prejudice, and are intended to be filed in due course in a divisional application. Claim 24 has been amended to explicitly distinguish over the newly cited Bridegum reference. Reconsideration and re-examination are requested in view of the foregoing amendments and the comments made hereinafter.

Rejection of claims 24-26 for obviousness

The Examiner rejects claims 24-26 for obviousness over Bridegum United States Patent 4,771,762 in view of previously cited Enander United States Patent 5,025,985.

Bridegum teaches a hot water heater which utilises a gas (propane) burner used in RV's and is not a diesel burner as the Examiner correctly notes. Bridegum's "combuster" emits exhaust which exhaust travels in a U-shaped tube type flow path and the exhaust is emitted out of the end of the "vent" 24 in door 20 (Figure 1). In a somewhat analogous manner, the flow path of the exhaust in the Bridegum apparatus resembles the partial flow path of the combustion exhaust associated with the burner of the present invention but without the exhaust manifold 104 as shown in Figure 1A.

With the previous burner configuration, it was found that the temperature of the exhaust gases emanating from the combustion chamber 101 without the exhaust manifold 104 were very high. This heat was being exhausted to the atmosphere and resulted in great waste and inefficiency. Bridegum has precisely the same problems with his described apparatus. Bridegum will have combustion flame in the "shell shaped sections" 28, 30. The exhaust temperature of the emissions from outlet 24 will be very high which is not only inefficient due to heat loss but also dangerous since if the high temperature exhaust is exposed to any kind of combustible material, it can ignite. This high

temperature problem is additional to the use of propane gas by Bridegum which the Examiner correctly notes is volatile.

In accordance with the present invention and in order to reduce the exhaust temperature and to reclaim a significant amount of the previously lost energy, the exhaust manifold 104 was constructed which provided an additional route for the exhaust through the water jacket thereby to provide additional heat to the water and to reduce the exhaust temperature before being exhausted to the exhaust stack 110 (Figure 1A). It has been a very successful development.

Bridegum does not teach or contemplate a second exhaust path through the water jacket. He contemplates a single path only and this gives rise to the disadvantages which are overcome by the teachings of the present application.

The Enander reference was fully dealt with in applicant's response filed April 28, 2010 (see page 8, line 19 over to page 9, line 11). Applicant repeats those statements here. Applicant agrees with the Examiner that Enander discloses diesel fuel for his heater.

Applicant has reviewed claims 24-26 in view of the Bridegum patent. Significant narrowing amendments have been made to claim 24 to explicitly set forth the inventive characteristic of the additional exhaust channel through the water tank. These amendments fully and patentably distinguish over the Bridegum and Enander references taken singly or in combination.

In view of the above, it is submitted that this application is now in condition for allowance. Re-consideration and withdrawal of the objections and rejections is requested and allowance of claims 24-26 is respectfully solicited.

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Respectfully submitted,

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